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To what extent are CEO's expertise, experience and commitment able to influence ESG policies

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ABSTRACT

In this paper we investigate how significant is top executives' role in shaping company's attitude toward Environmental, Social and Governance issues. Our study specifically focused on CEO's personal and professional characteristics: Age, Nationality, Level of Education, prior Environmental and Social Expertise. We tested our models on the 50 biggest European companies (EURO STOXX 50 index) and the 50 biggest US companies (STOXX USA 50 index). Our findings support the idea that younger CEOs tend to achieve higher ESG ratings for their companies, and similarly European CEO's outperform their U.S.'s colleagues in terms of MSCI ESG company's rating. However, we were not able to demonstrate the existence of a significant correlation between CEOs' level of education and company's ESG score using our data. Additionally, CEOs' prior environmental and social expertise did not positively correlate to the MSCI ESG index of the company.

INTRODUCTION

Environmental, Social and Governance investing, better known as ESG, is exponentially growing in relevance. Beside the intrinsic ethical importance characteristic of this typology of investment, their economic and financial relevance is surging. As reported by the Financial Times, over the last year, ESG funds have raised 70 billion dollars in new assets, while, in the same time period, traditional equity funds have lost approximately 200 billion dollars [See Figure 1].

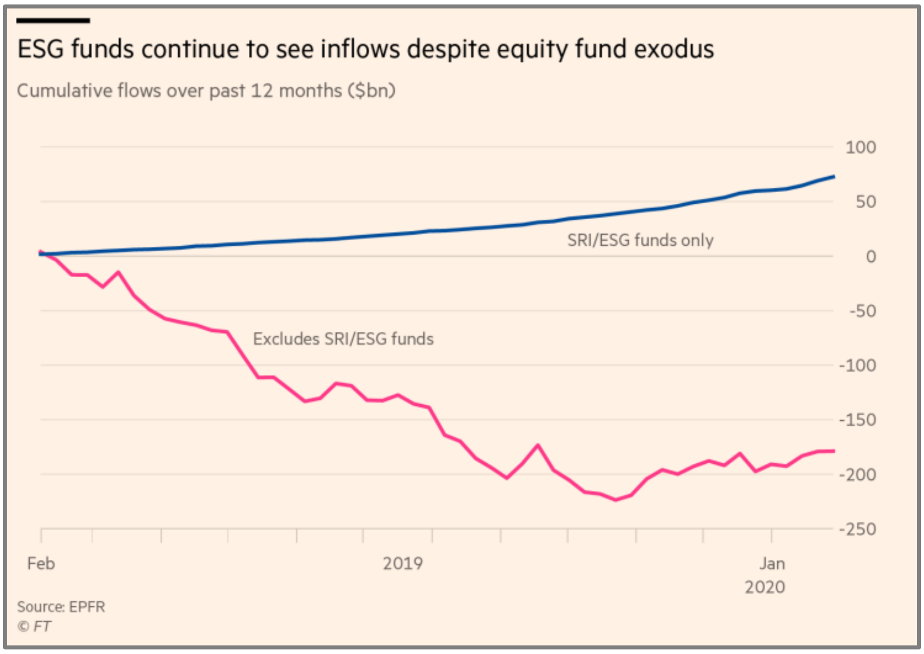

Figure 1: Cumulative flows of ESG and Equity funds
Financial Times, 04/02/2020

The rise in importance, as a consequence, has raised the total value of ESG assets invested at 8 trillion dollars, according to JP Morgan. In the acronym ESG, E stands for Environment and includes all the issues related to Global Warming, Water management, Recycling and materials consumption, carbon emissions and renewable energies. S stands for Social and refers to human and social rights of the workforce, child labour issues, company's approach to social justice causes, minorities' inclusion and any other related issue. Finally, G stands for Governance and relates to company transparency and compliance, board diversity, management bonuses and compensation and any regulatory issue. Beside ethical reasons, what may have pushed managers to embrace these policies and have increased investors' interest; are two key characteristics of ESG policies and investments: positive profitability and risk reduction. As reported by Forbes there is growing consensus on the market that investments considering ESG indicators lead to higher long-term financial returns and increase companies' probability to outperform the market. Moreover, ESG policies play a key role in risk management and risk reduction. These beliefs are confirmed by the latest McKinsey Global Survey conducted in order to evaluate CEO's perception of ESG programs. Respondents are more likely than 10 years ago to affirm that ESG programs improve the financial performance of the company by strengthening the organization's competitive position, meeting society's expectations for good corporate behaviour and increasing shareholders' value. Finally, Millennials' perception about ESG investing have changed the most among generations. As shown in a survey realized by Forbes, 77% of Millennials consider ESG a key priority when evaluating investment decisions and this data assumes an even more critical relevance considering the transfer of wealth taking place between baby boomers and millennials.

Scholars have deeply investigated reasons behind heterogenous companies' responses to ESG pressures. Several scientific studies have demonstrated that the number of ESG policies applied by companies may depend on executive compensation (Berrone and Gomez-Mejia 2009; Fabrizi et al. 2013), institutional pressures (Berrone et al. 2013), benefits on cost of capital (Bauer and Hann 2010; Chava 2011), benefits on the economic value of the company (Guenster et al. 2011), benefits on the stock value (Lo and Kwan 2017), better financial performance of the company (Ameer and Othman 2012), higher future returns (Eccles et al. 2015); social pressure and competition (Bansal and Roth 2000; Buniamin et al. 2015; Herremans et al. 2015) and company profitability (Russo and Fouts 1997; Lopez et al. 2007).

Less investigated than any other factor is CEOs' influence over ESG policies. Even if some scholars partially filled this gap (Fabrizi at al. 2014; Wu et al. 2015; Rego et al. 2015; Walls and Berrone 2015), CEOs' role and influence remain understudied. Nevertheless, researchers agree that ESG policies must be actuated by CEOs, whose beliefs and orientation regarding these topics play a key role in influencing company's actions (Fabrizi et al. 2014). This work attempts to investigate the role of CEOs personal and professional characteristics in shaping the ESG ranking of the company by answering the following question: "To what extent are CEOs' characteristics, expertise and commitment able to influence Environmental, Social and Governance (ESG) polices?".

Throughout the study, data was gathered to investigate the impact of CEO's personal and professional characteristics, expertise and commitment, on the MSCI ESG rating of the company. We used multiple Ordinary Least Squares (OLS) regression analysis since our dependent variable and all the independent variables are continuous or categorical. The results of the statistical models support the idea that younger CEOs tend to achieve higher ESG ratings for their companies. We found statistical evidence showing that European CEO's tend to achieve higher ratings compared to their U.S.'s colleagues. Contrarily to expectations data did not suggest a significant correlation between CEOs' level of education and company's ESG score. Similarly, CEOs' environmental and social expertise did not positively correlate to the MSCI ESG index of the company. In conclusion, our research proved that to some extent certain CEO's characteristics did play a role in shaping the MSCI ESG score of the companies. However, to the other extent the study did not identify a significant relationship between certain top managers' traits and the overall behaviour of the firm.

LITERATURE REVIEW

THE REASONS WHY COMPANIES GO GREEN

Researchers and scholars have conducted several studies on the possible reasons why companies implement ESG policies. Beside the intrinsic ethical reason why this typology of policies may be implemented, numerous positive externalities have been demonstrated to exist. For instance, companies with greener operations and smaller carbon footprints, companies with innovative and engaging social policies, and companies able to comply with regulations and transparency issues, seem to achieve better economic and financial performances. Numerous academic papers and scientific articles have focused their effort on demonstrating the existence of positive externalities that may lead companies to apply ESG policies. Although the role of CEOs has remained overly under looked by scholars, Berrone and Gomez-Mejia (2009) and Fabrizi et. al (2013) have investigated the correlation between ESG policies and executive compensation. Berrone and Gomez-Mejia in their article "Environmental Performance and Executive Compensation: An Integrated Agency-Institutional Perspective" found out that pollution prevention increases executive compensations way more than end-of-pipe pollution control. Similarly, Fabrizi, Mallin and Michelon have investigated the effect of both monetary and non-monetary CEOs' incentives on CSR, and demonstrated that monetary incentives (bonuses and stock options) tend to have a negative correlation with CSR policies, while non-monetary incentives (career development, power and entrenchment) correlate positively with this typology of policies. The number and degree of Environmental, Social and Governance policies adopted by companies are also dependent on institutional pressures that these companies may face. Berrone et al (2013) demonstrated the positive correlation intercurrent between a stronger regulatory and normative pressure, and companies' propensity to invest in environmental innovations. Whereas Bauer and Hann (2010) and Chava (2011) argue the existence of a positive externality on the cost of capital faced by companies that apply ESG criteria to their operations. Other researchers have focused their effort in order to demonstrate the benefits that ESG policies may have on the stock value and on the economic value of the company. Lo and Kwan (2017) proved the existence of a positive market reaction both to environmental initiatives and ESG policies. Similarly, Guenster et al. (2011), Ameer et al. (2012) and Eccles et al. (2015), found evidence of a positive correlation between ESG initiatives and the operating and financial performance of the company (e.g. Higher valuation of the company, higher sales, higher growth rates, higher return on assets, higher profit before taxation and higher cash flows). Finally, "Why Companies Go Green: A Model of Ecological Responsiveness" written by Bansal and Roth, "An integrative perspective of environmental, social and governance (ESG) reporting: A conceptual paper" written by Buniamin and Ahmad, and "Stakeholder Relationships, Engagement, and Sustainability Reporting" by Herremans, Nazari and Mahmoudian investigated the correlation between ESG commitment and stakeholders' pressures, public concern and competition. Among the available literature on this topic, what remains under investigated is the role of top executives; particularly the role of certain CEOs' personal and professional characteristics in explaining the number and degree of ESG policies implemented.

CEO'S ROLE IN ESG POLICIES

Even though researchers and scholars tend to agree on the fact that top executives assume a key role in the implementation of CSR policies (Fabrizi et al. 2014), their role remains understudied compared to other factors. An organization's Upper-Echelon is considered to be a critical determinant of the organization's performance (Glick et al. 1995). Scholars have deeply investigated the relation between Upper-Echelon diversity and CSR policies, often reaching discordant results (Ferrero et al. 2013; Huijsmans 2017). Nevertheless, among Upper-Echelon theory studies, the role of CEOs in influencing CSR and ESG strategies of the company has remained under investigated.

This work attempts to fill this gap by studying the relation between top executives' personal and professional characteristics, and the MSCI ESG score obtained by the company they are leading. Within the Top Management Team this study focused its attention on CEOs. Besides being the dominant decision maker among the TMT, CEO's intellectual stimulation has been proved to be highly associated to the propensity of the firm to engage in "strategic" CSR policies (Waldman et al. 2006). The aim of this research is to investigate and prove the relation between observable CEO's characteristics and the company's MSCI ESG rating. Manner (2010), in his scientific research named "The impact of CEO characteristics on corporate social performance" proved that some observable CEO's characteristics can influence Corporate Social Performance (CSP). For the purpose of this study several characteristics were analysed: CEOs' level of education, CEO's country of origin, CEOs' age and prior Environmental & Social expertise. Building on Manner's scientific article, we aimed to test if the above-mentioned traits can influence Environmental, Social and Governance performance of the company.

THEORY AND HYPOTHESIS

CEOS' LEVEL OF EDUCATION

Scholars have demonstrated that an individual's educational background can explain the level of that person's values and cognitive preferences (Hambrick and Mason1984) and moral development (Jones et al. 1990). Building on these findings, we hypothesized that managers who obtained higher educational degrees could have developed a stronger set of values and cognitive preferences, leading them to a more holistic comprehension of the relevance of ESG issues for today's society. Moreover, scientific literature suggests that top executives' educational background can have a major impact on firms' outcomes and behaviours (Cannella et al. 2009). Finally, Lewis at al. (2013) found evidence that CEOs holding an MBA degree have a higher probability of disclosing environmental information. Consequently, top executives who further progressed on their academic career, possess both a deeper comprehension of the topic and a stronger influence over firm's outcomes. Following these lines of work, in this paper, it has been hypothesized the presence of a positive relation between CEOs level of education and the number of ESG policies implemented by the company, and consequently, the MSCI ESG rating obtained by the firm.

H1: CEOs' level of education will be positively related to the MSCI ESG rating of the company.

CEOs' Country of Origin

Doh and Guay (2006) showed how differences in the European and U.S. institutional environments could affect expectations about corporate responsibilities to society. Similarly, many other researchers focused on these two regions for their geopolitical and economical importance, and the huge regulatory differences regarding sustainability; Europe being among the most regulated regions in the world, and U.S.A. lagging behind (Tînjală et al. 2015). For our analysis' purpose we chose to target companies headquartered in Europe and U.S.A. with the aim of testing whether, beside institutional influence, CEOs' country of origin may influence companies' ESG score. We hypothesized a positive correlation between the MSCI ESG score of the company and the European nationality of CEOs. This hypothesis relies on the evidence found by the study "ESG practices across developed markets" realized by Thomson Reuters. Thomson Reuters' report demonstrated that European companies tend to have higher ratings on environmental measures; implying higher disclosure and higher adherence to environmental standards. Nevertheless, in recent years ESG topics have progressively assumed a predominant role in the public opinion, increasing professional investors' and managers' attention. Given the new key central role assumed by these topics, this work aims to test whether the Europe-U.S.A. gap has been filled, and if CEOs' country of origin (i.e. being from Europe or from the U.S.) is able to explain the difference in the level of ESG policies implemented.

H2: CEOs' European nationality will be positively related to the MSCI ESG score of the firm.

CEO's Age

Wiersema and Bantel (1992) demonstrated that an individual's age plays a major role in influencing strategic decision-making perspective and choices. In the same article, the authors argued that with age, the subject tend to lose flexibility and propensity to risk, embracing a more resistant to change attitude. Consequently, younger top executives tend to challenge more the status quo and radically change the company's orientation toward critical challenges. We argued the existence of a negative correlation between CEOs' age and the degree of company's adherence to ESG standards and policies. Beside strategic decision theory, our hypothesis is supported by the clear-cut evidence of an increased sensibility to these topics by younger generations. Borghesi, Houston and Naranjo (Borghesi et al. 2014) in their scientific paper named "Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests." proved the existence of a negative correlation between CEOs' age and company's investment in Corporate Social Responsibility policies (CSR). Similarly, available literature and empirical evidence show the importance that younger generations attribute to ESG issues. This work aims to prove the existence of a negative correlation between CEOs' age and the MSCI ESG score of the company.

H3: CEOs' age will be negatively related to the MSCI ESG score of the company.

CEOs' Environmental and Social expertise

CEOs' environmental and social expertise data was gathered in order to test the presence of a positive correlation between CEO's commitment to these topics and the company's ESG score. Any participation to non-profit associations, boards or round tables was considered as a proxy for Environmental and Social expertise. Building on prior scientific literature (Lewis et al. 2013; Walls and Berrone 2015), we hypothesized that personal values of top executives may act as a booster for the commitment of the company. Indeed, Lewis, Walls and Dowell (Lewis et al. 2013), expected CEOs to translate their own values on the respective firm, as supported by several scientific articles (Wally and Baum 1994; Keeney 1992; Norburn 1989). Moreover, Walls and Berrone, in the article "The Power of One to Make a Difference: How Informal and Formal CEO Power Affect Environmental Sustainability" demonstrated how the informal power of CEOs in a specific subject, leads to an easier influence over the company's actions. Similarly, in this paper it has been hypothesized a positive correlation between CEO's prior Environmental and Social expertise and the MSCI ESG score of the company.

H4: CEOs' prior Environmental experience will be positively related to the MSCI ESG rating of the company.

H5: CEOs' prior Social experience will be positively related to the MSCI ESG rating of the company.

Methodology

Sample selection

Our sample comprises U.S. and European's listed companies in the so called "Blue-chip" category. The above-mentioned category includes all the companies with high quality standards, the capability to operate profitably and reliable operations. Companies were chosen from two different indexes: EURO STOXX 50 and STOXX USA 50, in the year 2020. A total of 50 European companies and 50 U.S. companies were analyzed for the study. These companies represent, respectively, the super-sector leaders for the Eurozone and for the U.S., being the largest firms in the world.

The EURO STOXX 50 Index comprises all the super-sector leaders in the eurozone (in terms of free-float market capitalization). It is composed by the most liquid stocks present in the market. It is constituted by 50 different companies from 11 European countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. EURO STOXX 50 has been introduced in 1998 and its composition is reviewed every September. For this study we utilized the 2020's index composition, in order to work on the last available version of the index and include all the companies that may have changed between 2019 and 2020.

Similarly, the STOXX USA 50 Index, provides a Blue-chip representation of the largest companies in the United States of America. The index contains 50 firms among the super-sector leaders. The choice of these indexes is driven by the purpose of the study. Since this research aims to demonstrate the possible correlation intercurrent between CEOs' observable characteristics and MSCI ESG score of the company, the 100 top managers leading the world biggest companies were chosen. Moreover, given that all these companies belong to the "Blue-chip" category, which means being particularly affected by public concern, authorities attention and market pressure and competition; it was interesting to analyze whether CEOs' personal and professional characteristics could correlate to the ESG rating despite being affected by the companies' nature and dimension. In conclusion, the analysis of the 100 biggest companies in the world (in terms of free-float market capitalization) and 100 of the greatest top executives worldwide, have significantly enhanced the research relevance.

DATA COLLECTION

In order to avoid data gaps, archive data were utilized instead of survey data. Beside leading to a completer and more consistent database, this methodology allowed to avoid possible biases in top executives' answers. Bloomberg, Forbes and Official companies' websites were searched in order to collect data on CEOs. Whenever available on different databases, information was checked for consistency. The results provided consistent data across several databases.

VARIABLES

DEPENDENT VARIABLE

Data for the dependent variable was collected through the official MSCI ESG website. The American finance company MSCI, assesses 7,500 companies with a rate ranging from "CCC" to "AAA". The 7 steps

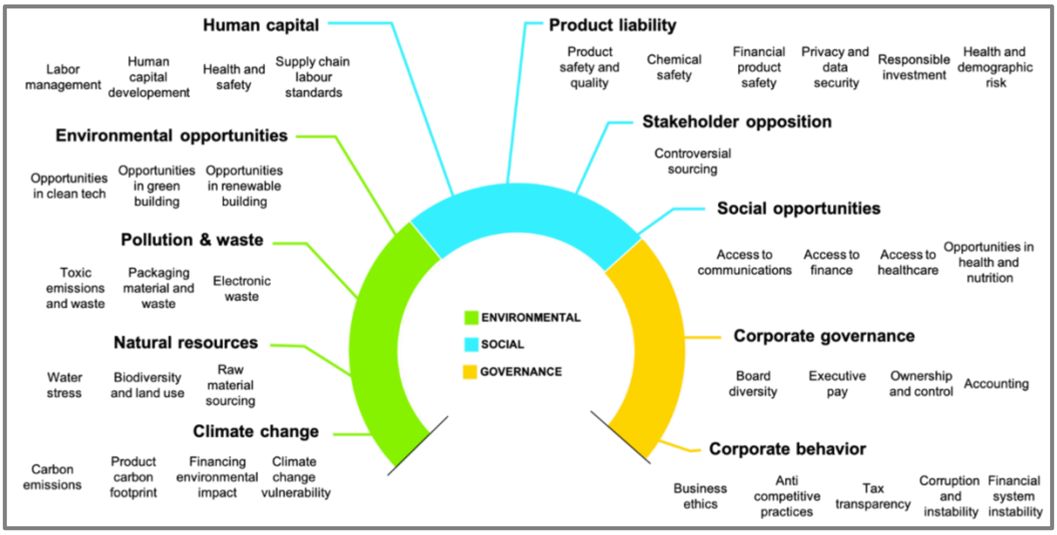

Figure 2: MSCI ESG rating composition www.msci.com/esg-investing, 2020

scale is built in order to rate companies according to their exposure to ESG risks and the degree of risk-management strategies implemented. Thousands of data points are collected for every single company, subsequently an Artificial Intelligence together with 200+ analysts, select only key, financially relevant issues. Every company is evaluated on the management of 37 key ESG issues, divided in 3 main categories: Environmental, Social and Governance. Every category is composed by several subcategories considered essential for the correct adherence to ethical standards [See Figure 2].

Being the dependent variable an ordinal variable, we assigned a number from 1 to 7 to each rate from “CCC” to “AAA”. Subsequently, the number of categories were reduced for statistical significance reasons. All the companies with a rate of “BB”, “B” and CCC” were categorized together with the lowest possible score: 3. Accordingly, the score 4 corresponded to the MSCI ESG rate “BBB”, 5 to the score “A”, 6 to “AA” and finally 7 to “AAA”. Among the EURO STOXX 50 companies the majority (36%) obtained a rate “A” in the year 2020, followed by 17 companies (34%) which obtained the maximum rate “AAA”. Moreover, one single company had a rating “CCC”. Conversely STOXX USA 50’s companies obtained, on average, lower ratings: 13 companies, representing the 26% of the total obtained a rate “BB”, followed by 24% (12 companies) which obtained “BBB”. Merely 4 firms obtained the “AAA” compared to the 17 European ESG leaders.

INDEPENDENT VARIABLES

The independent variables of interest included are: CEOs’ level of education, CEOs’ age, CEOs’ country of origin, CEOs’ environmental expertise and CEOs’ social expertise.

CEOs’ level of education

In order to assess top executives’ level of education, numerous databases were utilized: Bloomberg, Forbes and Official company’s website. Whenever the Chief Executive Officer achieved several higher educational degrees, only the highest was considered for the record. This categorical variable was divided in 5 categories: no education, bachelor’s degree, master’s degree, MBA and PHD. Subsequently the categories have been converted into a scale ranging from 0 to 4, with 0 corresponding to “no education” and 4 to having obtained a PHD. Statistics on the level of education don’t seem to differ hugely between the U.S. companies’ top executives and their European colleagues. The majority of CEOs have obtained an MBA education (44% for those who lead American companies and 41% for those who work in the EURO STOXX 50’s companies); followed by a great number of professionals who only obtained a bachelor’s degree: 16 (30%) among the European companies’ leaders and 17 (34%) among the STOXX USA 50’s companies’ executives. As expected, just a minority obtained a PHD diploma and even fewer have no higher education at all.

CEOs’ age

In order to test the hypothesis that younger CEO’s could lead to an higher number of ESG policies implemented and consequently a better MSCI ESG rating of the firm, top executives’ ages has been collected. The average age is 58,2 age for the executives leading European companies and 59,46 for their U.S. colleagues.

CEOs’ country of origin

In this study we investigated whether the origin of CEOs, and consequently their culture, are able to influence the MSCI ESG rating of the company where they work. Therefore, we collected top executives’ countries of origin and categorized the variable in 2 different clusters: those born in Europe and those born in the U.S. Data shows that the majority of EURO STOXX 50 companies' executives were born and studied in Europe, and similarly, STOXX USA 50 companies' managers are from the U.S.

CEOs' environmental and social expertise

Data on CEOs' environmental and social expertise was gathered in order to test a positive correlation between top executives' commitment to these topics and the company's MSCI ESG score. Any participation to non-profit associations, boards or round tables was considered as a proxy for Environmental and Social expertise. Among the 104 managers of the sample only a minority had previous experiences in non-profit associations or boards [See Figure 3].

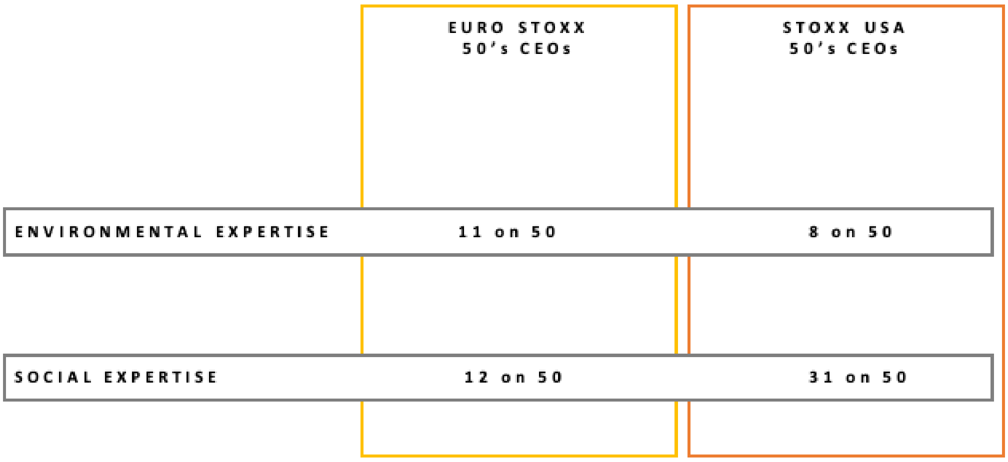

Figure 3: EURO STOXX 50's & STOXX USA 50's CEOs' Environmental and Social expertise

Bloomberg, 2020.

Data collected shows that managers who lived and studied in the U.S. had more Environmental and Social related experiences compared to those who were born in the old continent.

CONTROL VARIABLES

A series of control variables were added to account for firm- and CEO-specific factors that could affect the company's ESG ranking. Three variables were included: a continuous variable named "ENTERPRISE VALUE" as a proxy for firm size, a continuous variable called "ROA" representing a proxy for firm profitability and "CEO newness" as a dummy variable for CEOs who had been in office for fewer than 3 years because this period is when most major strategic actions take place (Lewis et al. 2014).

DATA ANALYSIS AND RESULTS

In order to test the five hypotheses raised we used the open-source statistical package Gretl. For each of the 5 hypotheses we conduced both a graphical and a statistical analysis. We used scatterplots and boxplots to show the relation intercurrent among our variables; subsequently we performed a set of OLS models to look for statistical evidence. We named our dependent variable as "ESGRATINGmodified". The term "modified" has been used to recall the classification operated on the variable. As already mentioned, all the companies with a rate of "BB", "B" and CCC" were categorized together with the lowest possible score: 3. Accordingly, the score 4 corresponded to the MSCI ESG rate "BBB", 5 to the score "A", 6 to "AA" and finally 7 to "AAA".

Our five independent variables were named as follows: “LEVELOFEDUCATION” was the name given to the categorical variable ranging from “No higher education” to “PHD degree”; “EUROPE” is the name of the dummy variable showing the European nationality of the top executive. “AGE” is the continuous variable indicating managers’ age. Finally, we named “ENVEXP” and “SOCEXP” the two dummy variables showing the Environmental and Social expertise of top executives. Similarly, we report the names assigned to our three control variables: “ENTERPRISE VALUE” as a proxy for firm size, a continuous variable called “ROA” representing a proxy for firm profitability and “CEO newness” as a dummy variable for CEOs who had been in office for fewer than 3 years. Table 3 provides minimum values, maximum values, means, standard deviations, 5th and 95th percentiles for all variables. Table 4 provides bivariate correlations for all variables.

Table 3: Descriptive Statistics

	Min	Max	Mean	SD	p5	p95
EUROPE	0.0000	1.0000	O.4519	0.5001	0.0000	1.0000
AGE	36.000	90.000	58.817	6.9837	48.250	69.500
ENVEXP	0.0000	1.0000	0.1827	0.3883	0.0000	1.0000
SOCEXP	0.0000	1.0000	0.4135	0.4948	0.0000	1.0000
LEVEL OF EDUCATION	0.0000	4.0000	2.2596	1.0703	1.0000	4.0000
ENTERPRISE VALUE	-1.1354x10$_{05}$	1.0197x10$_{06}$	1.8102x10$_{05}$	1.7583x10$_{05}$	23589	4.3878x10$_{05}$
ROA	-1.1900	27.844	6.4661	5.8156	0.14725	16.730
CEO NEWNESS	0.0000	1.0000	0.20192	0.40338	0.0000	1.0000

Number of observations: 104

EUROPE	CEO’s nationality: dummy variable assumes value of 1 if European, zero otherwise
AGE	CEO’s Age
ENVEXP	CEO’s prior Environmental Expertise: dummy variable assumes value of 1 if he/she has experience, zero otherwise
SOCEXP	CEO’s prior Environmental Expertise: dummy variable assumes value of 1 if he/she has experience, zero otherwise
LEVEL OF EDUCATION	Categorical variable showing the level of education of the CEO
ENTERPRISE VALUE	Continuous variable indicating the Enterprise value of the company
ROA	Continuous variable showing the Return on Assets of the firm
CEO NEWNESS	Dummy variable assumes value of 1 if he/she is new to the company (e.g. less than 3 years), zero otherwise

Table 4: Correlation Coefficients

		1	**2**	**3**	**4**	**5**	**6**	**7**
1	EUROPE	1						
2	AGE	0,0294	1					
3	ENVEXP	0,2207**	0,1700*	1				
4	SOCEXP	-0,2524***	0,0136	0,1083	1			
5	LEVEL OF EDUCATION	-0,0399	-0,0897	-0,1152	-0,0763	1		
6	ENTERPRISE VALUE	-0,3345***	0,0412	0,0656	0,1685*	-0,0338	1	
7	ROA	-0,2771***	-0,0360	-0,1398	0,2406**	0,0393	0,3287***	1
8	CEO NEWNESS	0,0727	-0,2763***	-0,0519	-0,1305	0,2597***	-0,0417	-0,0981

*** p<0.01, ** p<0.05, * p<0.1

EUROPE	CEO’s nationality: dummy variable assumes value of 1 if European, zero otherwise
ENVEXP	CEO’s prior Environmental Expertise: dummy variable assumes value of 1 if he/she has experience, zero otherwise

SOCEXP	CEO's prior Environmental Expertise: dummy variable assumes value of 1 if he/she has experience, zero otherwise
LEVEL OF EDUCATION	Categorical variable showing the level of education of the CEO
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Table 5: Results of Statistical Models

	MSCI ESG score					
	1	**2**	**3**	**4**	**5**	**6**
CEOs' characteristics						
AGE	-	−0.0518199***	−0.0540694***	−0.0560569***	−0.0566186***	−0.0566211***
		[0.0195903]	[0.0192265]	[0.0194680]	[0.0194932]	[0.0195829]
EUROPE	-	-	0.625487**	0.577296**	0.519185*	0.524399*
			[0.278043]	[0.286565]	[0.293681]	[0.295407]
ENV EXP	-	-	-	0.254258	0.314734	0.323355
				[0.351342]	[0.357727]	[0.360214]
SOC EXP	-	-	-	-	−0.257566	−0.252074
					[.280227]	[0.281953]
LEVEL OF EDUCATION	-	-	-	-	-	0.0443124
						[0.126457]
Control variables						
ENTERPRISE VALUE	-2.50518×10^{-06}***	-2.38888×10^{-06}***	-1.89905×10^{-06}**	-2.00179×10^{-06}**	-1.99032×10^{-06}**	-1.97681×10^{-06}**
	[8.12203×10^{-07}]	[7.90117×10^{-07}]	[8.04424×10^{-07}]	[8.18788×10^{-07}]	[8.19539×10^{-07}]	[8.24211×10^{-07}]
ROA	0.0521189**	0.0470036*	0.0566378**	0.0588585**	0.0629720**	0.0624035**
	[0.0246540]	[0.0240244]	[0.0239327]	[0.0241865]	[0.0246161]	[0.0247825]
CEO NEWNESS	−0.139889	−0.392874	−0.437440	−0.428640	−0.458274	−0.488538
	[0.335987]	[0.340069]	[0.333891]	[0.334926]	[0.336741]	[0.349141]
R-squared	0.100220	0.159616	0.200882	0.205173	0.212107	0.213124
P-value (F)	0.014016*	0.001626**	0.000458***	0.000895***	0.001414***	0.002812***

Number of observations: 104

Standard error in brackets

*** p<0.01, ** p<0.05, * p<0.1

Having defined and named our variables we proceeded to the statistical validation of our beliefs as shown in Table 5. We first ran a model that included only the control variables (Model 1) adding the AGE variable in Model 2, introducing CEO nationality in Model 3. Prior Environmental and Social expertise were tested respectively in Model 4 and Model 5. Finally, in Model 6, we added CEO's level of education.

According to our first Hypothesis (H1), CEOs' level of education should positively correlate to the company ESG rating. From a graphical preliminary analysis, we were not able to find such a correlation; both the scatterplot and the boxplot did not show the expected pattern. Subsequently, we performed an OLS analysis in order to gain statistical evidence of the relation. Model 6 showed the absence of a statistical relation between the mangers' level of education and the MSCI ESG rating of the firm. For our second hypothesis (H2), both the scatterplot and the boxplot clearly showed the positive relation that we expected. Furthermore, Statistical evidence strongly supported our graphical analysis: Models from 3 to 6 showed that the estimate of the parameter affecting EUROPE is positive as expected, with a 0,05 level of significance [See Table 5]. According to hypothesis number 3 (H3) younger top executives should obtain better ESG ranking for their companies. All the OLS models that we implemented [See table 5] seem to confirm the hypothesis. We obtained, as expected, a negative coefficient for the Age parameter with a 0,01 level of significance. Finally, we were not able to find statistical evidence of the relation between prior Environmental and Social CEO's experience and the ESG score of the company [As shown by Tables 5]. Neither the graphical analysis, nor the statistical models performed showed any evidence of relation between prior CEO's expertise and the MSCI ESG score of the firm (Hypothesis H4 and H5).

DISCUSSION

THEORETICAL CONTRIBUTION

We found that certain personal and professional CEOs' characteristics can somehow influence and shape top executives' commitment and, consequently, the number of ESG policies implemented by the company. This result suggests that past experiences and culture of an individual can, at least partially, explain that individual's choices and decisions. As already mentioned, previous literature has under analyzed top executives' role in shaping and influencing companies' behaviors toward ESG concerns. Nevertheless, among the existing literature regarding CEOs' influence, some articles reached conclusion in contrast with our results. These differences, beside our study limitations, could be due to the methodology we adopted. For instance, many articles used Trucost in order to assess companies' Environmental behavior, contrarily we gathered data from the MSCI ESG official website. Beside choosing a different data source we decided to include Social and Governance valuations to our analysis instead of focusing on Environmental measures only. Moreover, industries dramatically differ in their emission's levels and the typologies of risk to which they are exposed. The MSCI ESG rating evaluate companies on Industry specific risks in order to avoid overestimating issues not able to influence a specific company and, at the same time, underestimating key fundamental issues influencing that specific industry or company. Therefore, the results of the present study, conducted with MSCI ESG data, may differ from the results of prior analyses that utilized Trucost data.

PRACTICAL CONTRIBUTION

Finally, our results may be helpful for companies' shareholders planning to appoint a new Chief Executive Officer. As demonstrated in our study, is in the shareholders' interest that the company comply with Environmental, Social and Governance regulations obtaining progressively higher MSCI ESG rankings. In order to reach this goal companies may have the incentive to hire CEO's statistically more willing to apply these typologies of policies. As demonstrated by the present work, some personal and professional CEO's characteristics can predict the behavior he/she will have regarding these topics. Aiming to reach higher ESG rankings, beside an ethical reason, has a fundamental strategic motive (growing in relevance and importance). Since its founding in 2006, the United Nations Principles for Responsible Investing (PRI) has attracted support from more than 1,800 signatories representing over USD $68 trillion in assets under management as of April 2017 [See Figure 4].

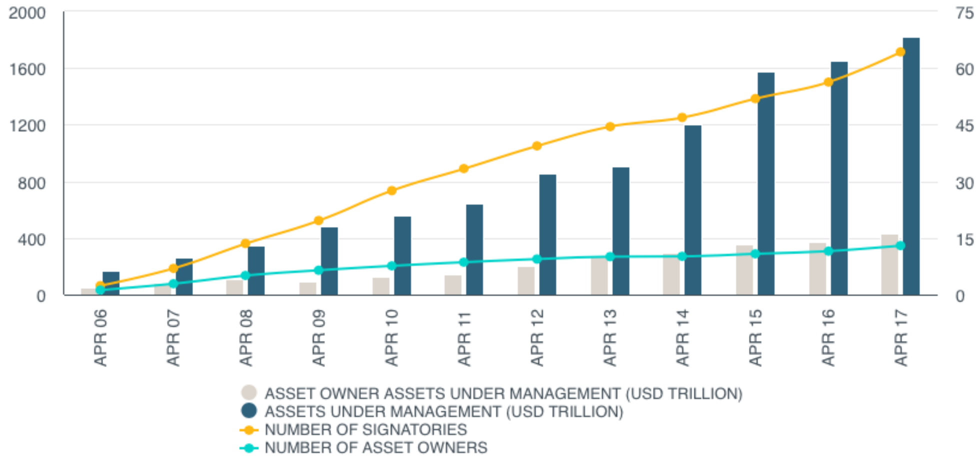

Figure 4: United Nations Principles for Responsible Investing (PRI) statistics

www.msci.com/esg-investing, 2020

Signatories commit to six voluntary principles, the first of which is the incorporation of ESG issues into investment analysis and decision-making. The growing importance of these issues, both from the investors' perspective and from the managers' perspective, will influence the amount of time and resources that firms will commit. Consequently, targeting CEOs statistically more willing to address ESG concern, will not only steer the company in the right direction (both ethically and strategically), but also give the overall strategy of the company a consistent and coherent positioning. Companies operating in the present "information era" are obliged to act coherently and consistently to their own values and commitments. For this reason, is in the shareholders' interests aligning company's and CEO's goals and objectives in a sincere and transparent fashion.

Limitations and future research

We found five different limitations that might have influenced the results obtained in the study. First, we analyzed CEOs of large, quoted companies within the US and European markets. Therefore our findings may not be applicable to small and medium enterprises (SMEs) or to different geographical regions. Future research could shift the focus to other geographical latitudes and longitudes, other Top Management Team's levels or different companies' typologies (i.e. family owned firms or SMEs). Second, we used MSCI ESG score as a proxy of CEOs' attitude toward Environmental, Social and Governance issues. This variable may not necessarily be the best possible proxy, therefore future research could focus on reducing the inaccuracy due to the methodology chosen. Similarly, participation to non-profit associations, boards or round tables could not represent a perfect proxy in order to estimate CEOs' prior Environmental and Social expertise; direct interviews and surveys may represent a better data collection methodology for this typology of information. Third, our sample, compared to the topic's size and variability may result too small in order to obtain precise data. Further analysis could be conducted in order to extend the scope of the analyses to other indexes beside EURO STOXX 50 and STOXX USA 50. Fourth, future researches could look at the interrelations described in the article and utilize more sophisticated methods or non-linear models in order to obtain significant and reliable results. Finally, endogeneity could be the fifth limitation of the study: the results of the models that we have implemented, could have been influenced by the European or American nationality of the companies. Moreover, differences in the industry distribution between the Old continent and the United States of America could have deeply affected the study. The expected relations between the variables could have been proven to be significant if different or non-linear models were utilized. The fact that, contrarily to initial expectations, some independent variables were non-significant in order to explain ESG score's variability, does not mean the total absence of a connection; our data and the statistical models built were not able to show this connection. A final avenue for future academic articles concerns the analysis of different CEO's characteristics that may be able to explain top executive's commitment over ESG policies and concerns.

CONCLUSION

An overarching conclusion of this study is that one single person can dramatically influence a company's commitment over a specific topic. The influence that CEOs will be able to impress on the firm is strictly correlated to his/her personal and professional values. Certain CEOs' characteristics can better explain the direction that the enterprise will pursue under the top executive's mandate. In our research we aimed to identify which traits conditioned the company's MSCI ESG ranking. After gathering data from 50 European CEOs and 50 American CEOs to investigate the impact of their personal and professional characteristics, expertise and commitment, on their attitude toward ESG policies, we obtained interesting results. Statistical models support the idea that younger CEOs tend to achieve higher ESG ratings for their companies, and similarly European CEO's outperform their U.S.'s colleagues in terms of MSCI ESG company's rating. Contrarily to expectations data did not suggest a significant correlation between CEOs' level of education and company's ESG score. Similarly, CEOs' environmental and social expertise did not positively correlate to the MSCI ESG index of the company.

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SUMMARY

In this paper we investigate how significant is top executives' role in shaping company's attitude toward Environmental, Social and Governance issues. Our study specifically focused on CEO's personal and professional characteristics: Age, Nationality, Level of Education, prior Environmental and Social Expertise. We tested our model on the 50 biggest European companies (EURO STOXX 50 index) and the 50 biggest US companies (STOXX USA 50 index). Our findings support the idea that younger CEOs tend to achieve higher ESG ratings for their companies, and similarly European CEO's outperform their U.S.'s colleagues in terms of MSCI ESG company's rating. However, we were not able to demonstrate the existence of a significant correlation between CEOs' level of education and company's ESG score using our data. Additionally, CEOs' prior environmental and social expertise did not positively correlate to the MSCI ESG index of the company.

Environmental, Social and Governance investing, better known as ESG, is exponentially growing in relevance. Beside the intrinsic ethical importance characteristic of this typology of investment, their economic and financial relevance is surging. As reported by the Financial Times, over the last year, ESG funds have raised 70 billion dollars in new assets, while, in the same time period, traditional equity funds have lost approximately 200 billion dollars. The rise in importance has raised the total value of ESG assets invested at 8 trillion dollars, according to JP Morgan. Beside ethical reasons, what may have pushed managers to embrace these policies and have increased investors' interest; are two key characteristics of ESG policies and investments: positive profitability and risk reduction. As reported by Forbes there is growing consensus on the market that investments considering ESG indicators lead to higher long-term financial returns and increase companies' probability to outperform the market. Moreover, ESG policies play a key role in risk management and risk reduction. These beliefs are confirmed by the latest McKinsey Global Survey conducted in order to evaluate CEO's perception of ESG programs. Respondents are more likely than 10 years ago to affirm that ESG programs improve the financial performance of the company by strengthening the organization's competitive position, meeting society's expectations for good corporate behaviour and increasing shareholders' value.

Scholars have deeply investigated reasons behind heterogenous companies' responses to ESG pressures. Several scientific studies have demonstrated that the number of ESG policies applied by companies may depend on executive compensation (Berrone and Gomez-Mejia 2009; Fabrizi et al. 2013), institutional pressures (Berrone et al. 2013), benefits on cost of capital (Bauer and Hann 2010; Chava 2011), benefits on the economic value of the company (Guenster et al. 2011), benefits on the stock value (Lo and Kwan 2017), better financial performance of the company (Ameer and Othman 2012), higher future returns (Eccles et al. 2015); social pressure and competition (Bansal and Roth 2000; Buniamin et al. 2015; Herremans et al. 2015) and company profitability (Russo and Fouts 1997; Lopez et al. 2007).

Less investigated than any other factor is CEOs' influence over ESG policies. Even though researchers and scholars tend to agree on the fact that top executives assume a key role in the implementation of CSR policies (Fabrizi et al. 2014), their role remains understudied compared to other factors. An organization's

Upper-Echelon is considered to be a critical determinant of the organization's performance (Glick et al. 1995). Scholars have studied the relation between Upper-Echelon diversity and CSR policies, often reaching discordant results (Ferrero et al. 2013; Huijsmans 2017). Nevertheless, among Upper-Echelon theory studies, the role of CEOs in influencing CSR and ESG strategies of the company has remained under investigated.

This work attempts to fill this gap by studying the relation between top executives' personal and professional characteristics, and the MSCI ESG score obtained by the company they are leading. Within the Top Management Team this study focused its attention on CEOs. Besides being the dominant decision maker among the TMT, CEO's intellectual stimulation has been proved to be highly associated to the propensity of the firm to engage in "strategic" CSR policies (Waldman et al. 2006).

Scholars have demonstrated that an individual's educational background can explain the level of that person's values and cognitive preferences (Hambrick and Mason1984) and moral development (Jones et al. 1990). Building on these findings, we hypothesized that managers who obtained higher educational degrees could have developed a stronger set of values and cognitive preferences, leading them to a more holistic comprehension of the relevance of ESG issues for today's society. Moreover, scientific literature suggests that top executives' educational background can have a major impact on firms' outcomes and behaviours (Cannella et al. 2009). Finally, Lewis at al. (2013) found evidence that CEOs holding an MBA degree have a higher probability of disclosing environmental information. Consequently, top executives who further progressed on their academic career, possess both a deeper comprehension of the topic and a stronger influence over firm's outcomes. Following these lines of work, in this paper, it has been hypothesized the presence of a positive relation between CEOs level of education and the number of ESG policies implemented by the company, and consequently, the MSCI ESG rating obtained by the firm.

H1: CEOs' level of education will be positively related to the MSCI ESG rating of the company.

Doh and Guay (2006) showed how differences in the European and U.S. institutional environments could affect expectations about corporate responsibilities to society. Similarly, many other researchers focused on these two regions for their geopolitical and economical importance, and the huge regulatory differences regarding sustainability; Europe being among the most regulated regions in the world, and U.S.A. lagging behind (Tînjală et al. 2015). For our analysis' purpose we chose to target companies headquartered in Europe and U.S.A. with the aim of testing whether, beside institutional influence, CEOs' country of origin may influence companies' ESG score. We hypothesized a positive correlation between the MSCI ESG score of the company and the European nationality of CEOs. This hypothesis relies on the evidence found by the study "ESG practices across developed markets" realized by Thomson Reuters. Thomson Reuters' report demonstrated that European companies tend to have higher ratings on environmental measures; implying higher disclosure and higher adherence to environmental standards. Nevertheless, in recent years ESG topics have progressively assumed a predominant role in the public opinion, increasing professional investors' and managers' attention. Given the new key central role assumed by these topics, this work aims to test whether the Europe-U.S.A. gap has been filled, and if CEOs' country of origin (i.e. being from Europe or from the U.S.) is able to explain the difference in the level of ESG policies implemented.

H2: CEOs' European nationality will be positively related to the MSCI ESG score of the firm.

Wiersema and Bantel (1992) demonstrated that an individual's age plays a major role in influencing strategic decision-making perspective and choices. In the same article, the authors argued that with age, the subject tend to lose flexibility and propensity to risk, embracing a more resistant to change attitude. Consequently, younger top executives tend to challenge more the status quo and radically change the company's orientation toward critical challenges. We argued the existence of a negative correlation between CEOs' age and the degree of company's adherence to ESG standards and policies. Beside strategic decision theory, our hypothesis is supported by the clear-cut evidence of an increased sensibility to these topics by younger generations. Borghesi, Houston and Naranjo (Borghesi et al. 2014) in their scientific paper named "Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests." proved the existence of a negative correlation between CEOs' age and company's investment in Corporate Social Responsibility policies (CSR). Similarly, available literature and empirical evidence show the importance that younger generations attribute to ESG issues. This work aims to prove the existence of a negative correlation between CEOs' age and the MSCI ESG score of the company was hypothesized.

H3: CEOs' age will be negatively related to the MSCI ESG score of the company.

CEOs' environmental and social expertise data was gathered in order to test the presence of a positive correlation between CEO's commitment to these topics and the company's ESG score. Any participation to non-profit associations, boards or round tables was considered as a proxy for Environmental and Social expertise. Building on prior scientific literature (Lewis et al. 2013; Walls and Berrone 2015), we hypothesized that personal values of top executives may act as a booster for the commitment of the company. Indeed, Lewis, Walls and Dowell (Lewis et al. 2013), expected CEOs to translate their own values on the respective firm, as supported by several scientific articles (Wally and Baum 1994; Keeney 1992; Norburn 1989). Moreover, Walls and Berrone, in the article "The Power of One to Make a Difference: How Informal and Formal CEO Power Affect Environmental Sustainability" demonstrated how the informal power of CEOs in a specific subject, leads to an easier influence over the company's actions. Similarly, in this paper it has been hypothesized a positive correlation between CEO's prior Environmental and Social expertise and the MSCI ESG score of the company.

H4: CEOs' prior Environmental experience will be positively related to the MSCI ESG rating of the company.

H5: CEOs' prior Social experience will be positively related to the MSCI ESG rating of the company.

In order to test the five hypotheses raised we used the open-source statistical package Gretl. For each of the 5 hypotheses we conduced both a graphical and a statistical analysis. We used scatterplots and boxplots to show the relation intercurrent among our variables; subsequently we performed a set of OLS models to look for statistical evidence.

Having defined and named our variables we proceeded to the statistical validation of our beliefs as shown in Table 5. We first ran a model that included only the control variables (Model 1) adding the AGE variable in Model 2, introducing CEO nationality in Model 3. Prior Environmental and Social expertise were tested respectively in Model 4 and Model 5. Finally, in Model 6, we added CEO's level of education.

According to our first Hypothesis (H1), CEOs' level of education should positively correlate to the company ESG rating. From a graphical preliminary analysis, we were not able to find such a correlation; both the scatterplot and the boxplot did not show the expected pattern. Subsequently, we performed an OLS analysis in order to gain statistical evidence of the relation. Model 6 showed the absence of a statistical relation between the mangers' level of education and the MSCI ESG rating of the firm. For our second hypothesis (H2), both the scatterplot and the boxplot clearly showed the positive relation that we expected. Furthermore, Statistical evidence strongly supported our graphical analysis: Models from 3 to 6 showed that the estimate of the parameter affecting EUROPE is positive as expected, with a 0,05 level of significance [See Table 5]. According to hypothesis number 3 (H3) younger top executives should obtain better ESG ranking for their companies. All the OLS models that we implemented [See table 5] seem to confirm the hypothesis. We obtained, as expected, a negative coefficient for the Age parameter with a 0,01 level of significance. Finally, we were not able to find statistical evidence of the relation between prior Environmental and Social CEO's experience and the ESG score of the company [As shown by Tables 5]. Neither the graphical analysis, nor the statistical models performed showed any evidence of relation between prior CEO's expertise and the MSCI ESG score of the firm (Hypothesis H4 and H5).

We found that specific personal and professional CEOs' characteristics can somehow influence and shape top executives' commitment and, consequently, the number of ESG policies implemented by the companies they are leading. This result suggests that past experiences and culture of an individual can, at least partially, explain that individual's choices and decisions. As already mentioned, previous literature has under analyzed top executives' role in shaping and influencing companies' behaviors toward ESG concerns. Nevertheless, among the existing literature regarding CEOs' influence, some articles reached conclusion in contrast with our results. These differences, beside our study limitations, could be due to the methodology we adopted. For instance, many articles used Trucost in order to assess companies' Environmental behavior, contrarily we gathered data from the MSCI ESG official website. Beside choosing a different data source we decided to include Social and Governance valuations to our analysis instead of focusing on Environmental measures only. Moreover, industries dramatically differ in their emission's levels and the typologies of risk to which they are exposed. The MSCI ESG rating evaluate companies on Industry specific risks in order to avoid overestimating issues not able to influence a specific company and, at the same time, underestimating key fundamental issues influencing that specific industry or company. Therefore, the results of the present study, conducted with MSCI ESG data, may differ from the results of the prior analyses that utilized Trucost data.

The results we found may be helpful for companies' shareholders planning to appoint a new Chief Executive Officer. As demonstrated in our study, is in the shareholders' interest that the company comply with Environmental, Social and Governance regulations obtaining progressively higher MSCI ESG rankings. In order to reach this goal companies may have the incentive to hire CEO's statistically more willing to apply these typologies of policies. As demonstrated in the present work, some personal and professional CEO's characteristics can predict the behavior he/she will have regarding these topics. Aiming to reach higher ESG rankings, beside an ethical reason, has a fundamental strategic motive (growing in relevance and importance). Since its founding in 2006, the United Nations Principles for Responsible Investing (PRI) has attracted support from more than 1,800 signatories representing over USD $68 trillion in assets under management as of April 2017. Signatories commit to six voluntary principles, the first of which is the incorporation of ESG issues into investment analysis and decision-making. The growing importance that these issues are assuming, both from the investors' perspective and from the managers' perspective, will influence the amount of time and resources that firms will commit. Consequently, targeting CEOs statistically more willing to address ESG concern, will not only steer the company in the right direction (both ethically and strategically), but also give the overall strategy of the company a consistent and coherent positioning. Companies operating in the present "information era" are obliged to act coherently and consistently to their own values and commitments. For this reason, is in the shareholders' interests aligning company's and CEO's goals and objectives in a sincere and transparent fashion.

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An overarching conclusion of this study is that one single person can dramatically influence a company's commitment over a specific topic. The influence that CEOs will be able to impress on the firm is strictly correlated to his/her personal and professional values. Certain CEOs' characteristics can better explain the direction that the enterprise will pursue under the top executive's mandate. In our research we aimed to identify which traits conditioned the company's MSCI ESG ranking. After gathering data from 50 European CEOs and 50 American CEOs to investigate the impact of their personal and professional characteristics, expertise and commitment, on their attitude toward ESG policies, we obtained interesting results. Statistical models support the idea that younger CEOs tend to achieve higher ESG ratings for their companies, and similarly European CEO's outperform their U.S.'s colleagues in terms of MSCI ESG company's rating. Contrarily to expectations data did not suggest a significant correlation between CEOs' level of education and company's ESG score. Similarly, CEOs' environmental and social expertise did not positively correlate to the MSCI ESG index of the company.